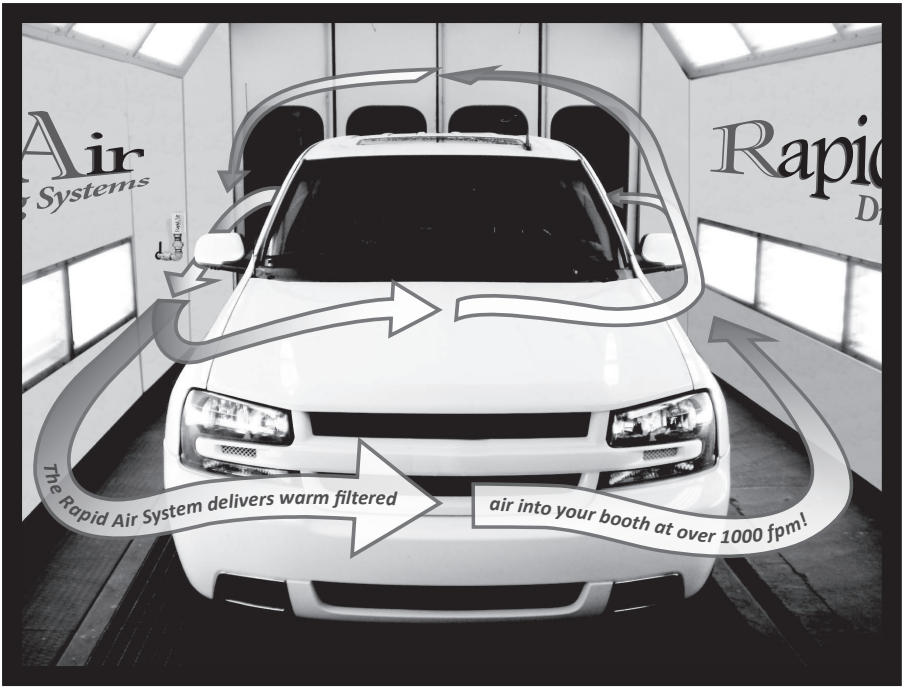
Rapid Air
Drying Systems®



2.5 HP System User Manual

Dedoes

www.dedoesdryingsystems.com

Patent Pending

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CONTACT INFORMATION

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RAPID AIR SYSTEM CONTENTS

Product Components:

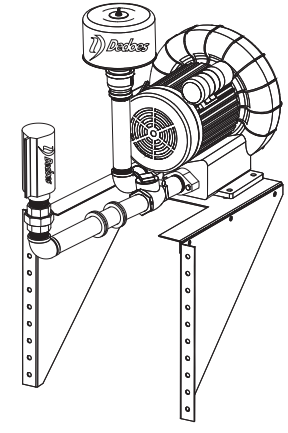
Two Blower Motors

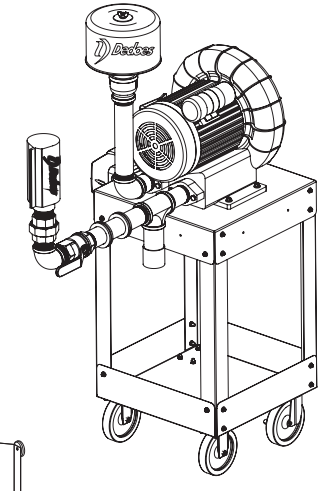
Two Starter Assemblies or optional VFD Control

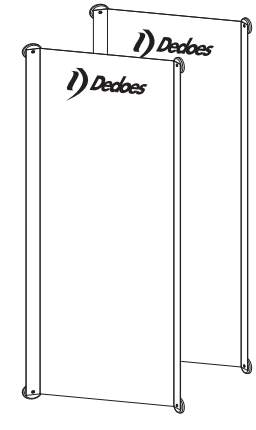
Two Hardware Components (Shown assembled)

Components for Two Cart Assemblies or Two Wall Mount Assemblies (Shown assembled)

Two Magnetic Deflectors







Assemblies and configuration may vary from the images above.

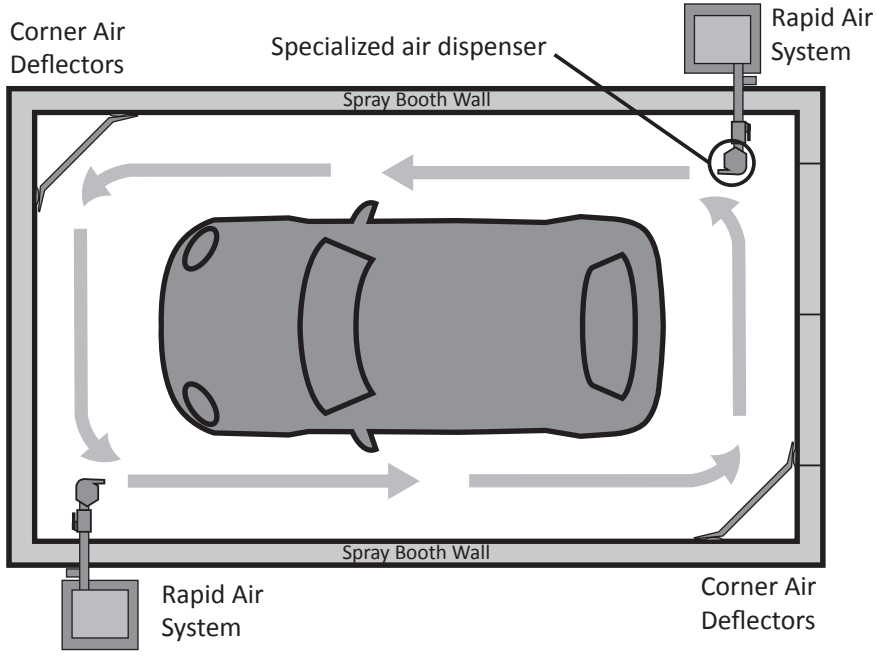
Please consult your assembly instructions for more information.

INTRODUCTION AND OVERVIEW

Rapid Air Drying System Description:

The system, located outside the paint booth, generates a high speed air flow vortex of warm filtered air inside a paint booth to effectively decrease the curing times of both waterborne and solvent based paints. It is driven by two 2.5 horsepower single-stage ring compressor electric blower motors, which filter shop air with two 2.0 micron filtration filters. The system then warms and delivers the air inside the booth at a high velocity through a piping system which ends with specialized air dispensers that control the volume and direction of the air.

These specialized air dispensers direct the warm, high velocity air flow along the sides of the automobile or the part being painted. The corner air deflectors redirect the air flow along the front and back of the booth to create a vortex effect. See the diagram below. This airflow dynamic also increases the airflow across the horizontal surfaces such as the hood, top, and deck lid of the automobile.



INTRODUCTION AND OVERVIEW CONTINUED

The specialized air dispensers control both volume and direction of the air flow. Along with creating a high velocity air vortex, the system also increases the temperature and lowers the humidity of the paint booth, therefore promoting faster curing times and improving efficiency.

Available System Features:

- Electric 230V single phase, 230V three phase, or 460V three phase systems, independent of the shop air compressor.
- Valve systems for air flow volume control.
- Specialized air dispensers for air flow acceleration and directional control produce air speeds exceeding 1000 feet per minute at 12 feet away from the dispensers.
- Two 2.0 micron air filters.
- Optional Variable Frequency Drive (VFD) Control

Note:

For 230V single phase power, a minimum 30 amp service drop is required for each blower.

For 230V three phase power, a minimum 20 amp service drop is required for each blower.

For 460V three phase power, a minimum 15 amp service drop is required for each blower.

* All electrical wiring must meet local code requirements.

* Please refer to your electrical contractor for requirements.

DISCLAIMERS AND SAFETY PRECAUTIONS:

The Dedoes Rapid Air Drying System is intended to be used by trained professionals in industrial work areas where public and incidental access is prohibited. All operators and repair personnel must read the assembly manuals and be aware of the proper use of the machine and all of its caution markings.

- OSHA approved eye protection must be worn when installing the system.
- Gloves must be worn when assembling the components and installing the system because the pipe threads and component edges may be sharp.
- Keep hands and loose clothing away from moving parts.
- Lifting the Blower motor from the packaging will require a crane or two people due to its weight.
- Disconnect electrical power before performing any service on the system.
- The power supply and all electrical connections must conform to all federal, state, and local regulations and be performed by a fully qualified electrician.*
- Any additional piping supplies required to install the system need to be cleaned of oils, metal shavings, and any other debris before being used for the installation.
- Care must be taken when drilling the holes into the booth wall or any other place necessary to install the system. The hole locations must be free of any electrical wiring, lighting fixtures, or gas piping. This includes the holes through the booth and when mounting the starter.
- When using the cart the wheels should be locked into position once the unit is installed to prevent movement during operation.
- If the supplied carts are not used for the install, the blower motors must be mounted in a safe and secure manner that supports the weight of the unit and operating motion.
- Units should always be installed where they do not create a hazard to the employees of the facility and any other person who could be in the area.

* Dedoes assumes no liability if proper wiring is not completed by a licensed electrician.

General System Maintenance:

The Rapid Air Drying System requires very little maintenance to retain its efficiency.

To ensure that your system will operate as expected, Dedoes recommends the following care and maintenance:

- Change the foam and paper filters once per month.
  Contact your local Jobber for replacement filters, **Dedoes Part Number: P1523**
- Clean the Blower Assemblies to remove dust and dirt.
  (A vacuum is best suited for this.)

Optional Variable Frequency Drive Maintenance:

The VFD operations panel has two filters inside the cabinet.

- Inspect the filters once per month and replace if necessary.
  Contact your local Jobber for replacement filters, **Dedoes Part Number: P1683**

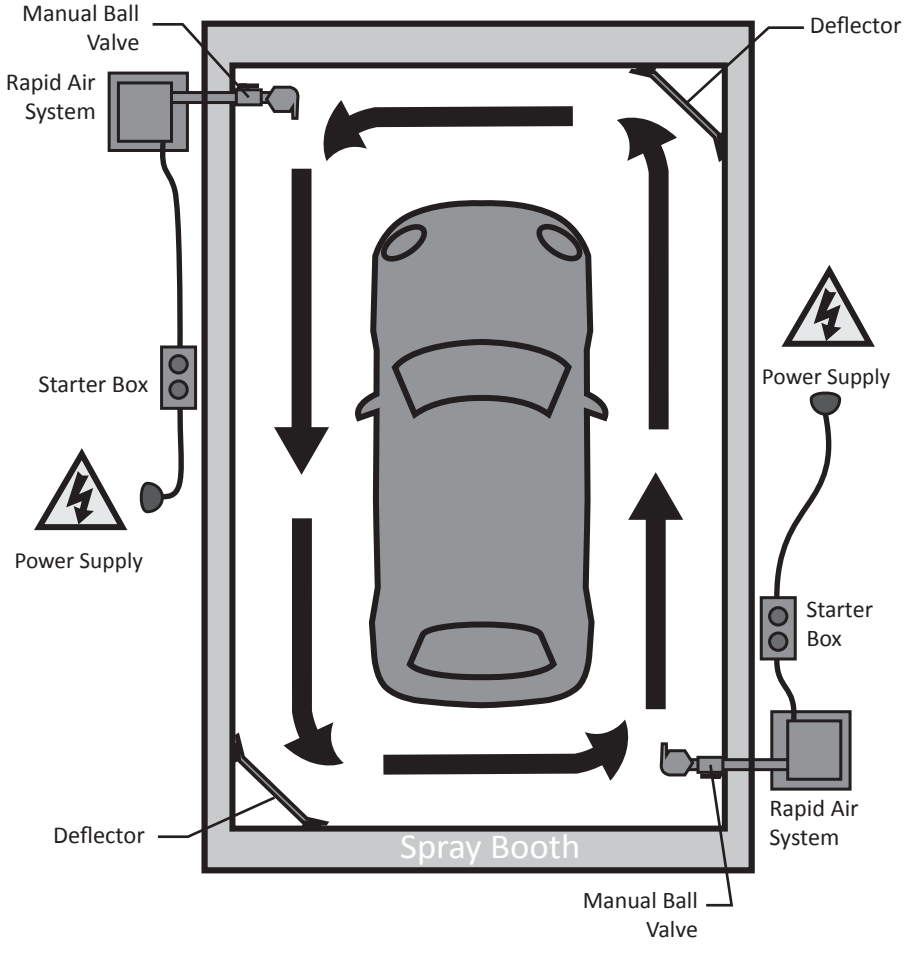
STANDARD SPRAY BOOTH DIAGRAM

Switches and outlets must be located outside of the booth.

Stand alone unit - 230 Vac with a minimum 20 Amp circuit for three phase

460 Vac with a minimum 15 Amp circuit for three phase

230 Vac with a minimum 30 amp circuit for single phase



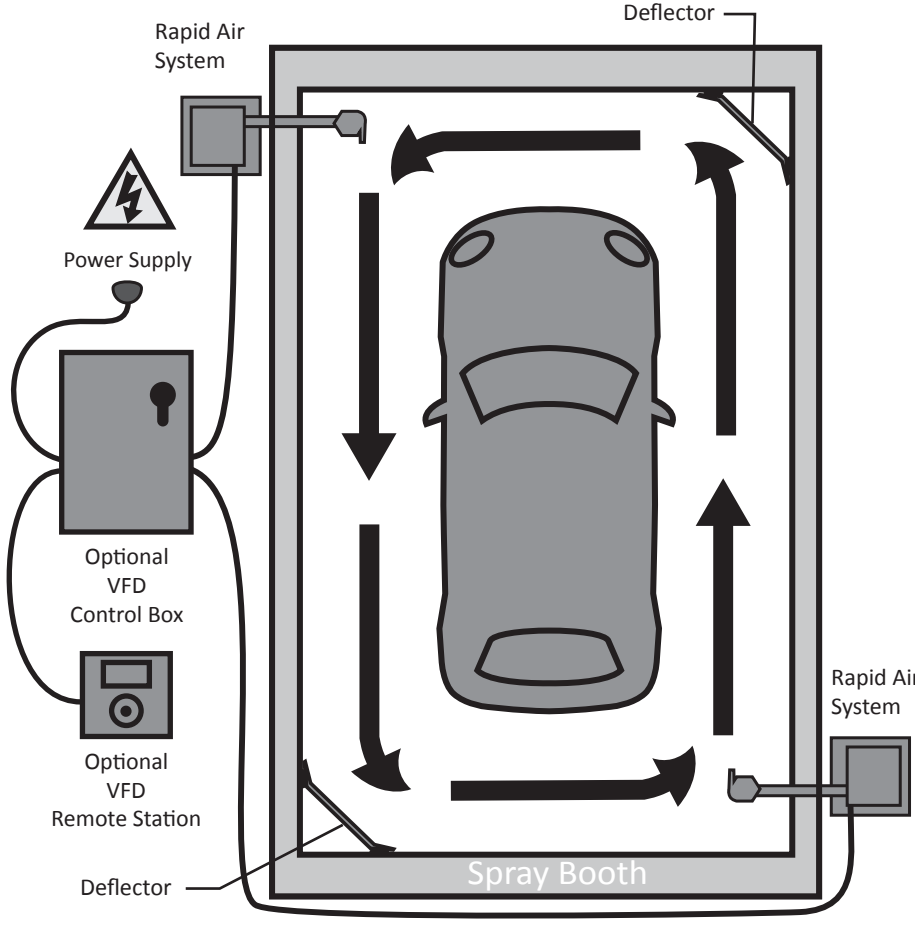
VFD OPERATED SPRAY BOOTH DIAGRAM

Switches and outlets must be located outside of the booth.

Stand alone unit - 230 Vac with a minimum 20 Amp circuit for three phase

460 Vac with a minimum 15 Amp circuit for three phase

230 Vac with a minimum 30 amp circuit for single phase



TROUBLE SHOOTING

Troubleshooting:

- **Decreased air flow:**
  Change the intake filters.

- **Inadequate air flow upon initial startup:**
  Check that both ball valves are in the open position.
  Check the wiring from the power source to the motor with a volt meter

- **The Blower motor is hot and louder than usual:**
  Change the intake filters.

- **The Blower motor is whistling:**
  Check the two 13 mm bolts located at the inlet and exhaust ports on blower motor and see if they are loose. If so, tighten them.

- **The Rapid Air System is difficult to start or will not start:**
  Make sure the ball valve is in the open position during start up.
  Check the power supply to the system and ensure that all wiring connections are correct.
  Check the circuit breaker to ensure power is supplied to the system.
  Depress the red stop/reset button completely to reset each starter box.

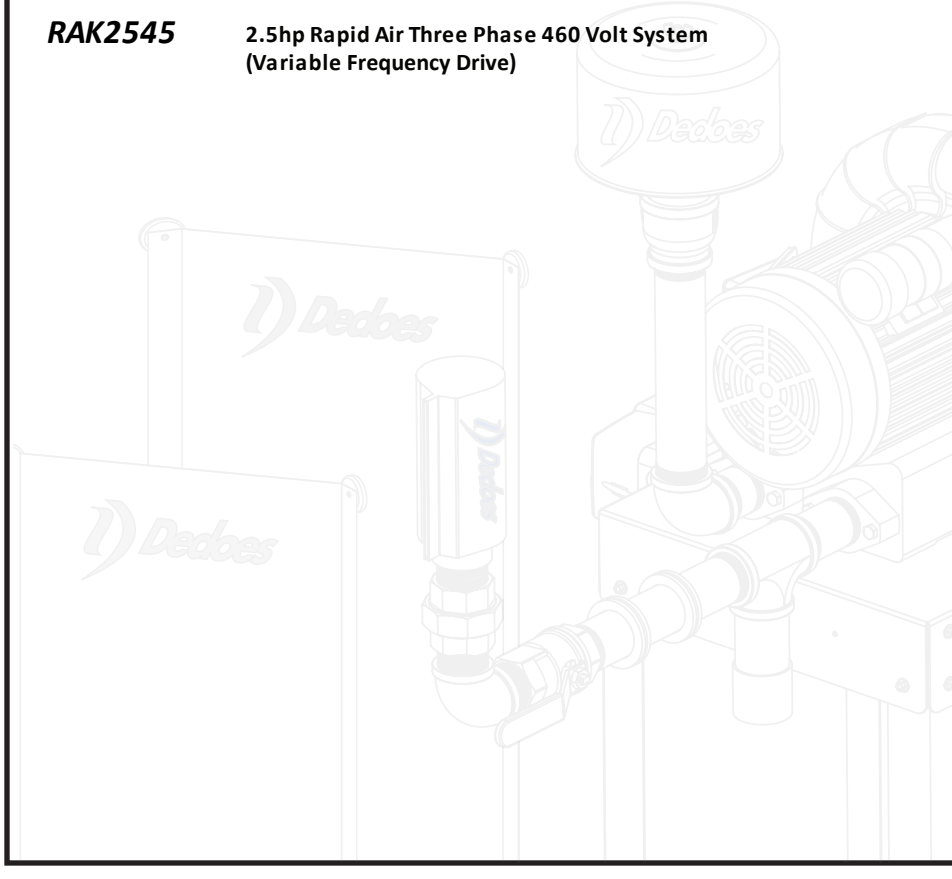
For VFD Installations:

- **Trouble Codes:**
- *Refer to Fuji-Frenic inverter drive manual for trouble shooting codes.*

- **The VFD will not start the system:**
- *Be sure the fire suppression interlock is installed. It must be tied into 2190 and 2220 terminals or the VFD will not operate.*

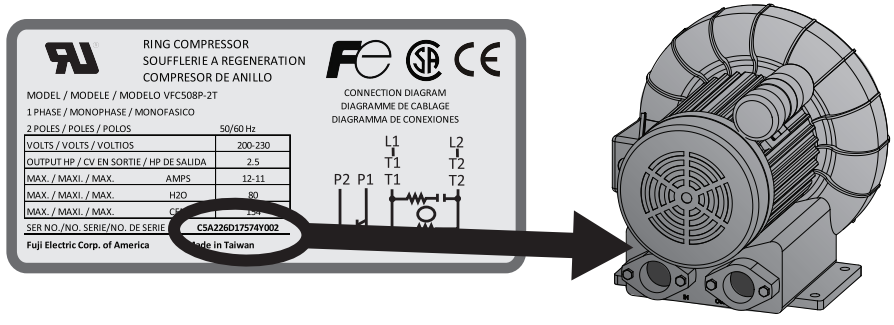
COMPLETE SYSTEM PART NUMBERS

RAK2500	**2.5hp Rapid Air Single Phase 230 Volt System (Standard Starter)**
RAK2520	**2.5hp Rapid Air Three Phase 230 Volt System (Standard Starter)**
RAK2540	**2.5hp Rapid Air Three Phase 460 Volt System (Standard Starter)**
RAK2525	**2.5hp Rapid Air Three Phase 230 Volt System (Variable Frequency Drive)**
RAK2545	**2.5hp Rapid Air Three Phase 460 Volt System (Variable Frequency Drive)**



HOW TO LOCATE THE SERIAL NUMBER

When calling the Dedoes Customer Service Department at 1-248-624-7710, we ask that you have your serial number available. Your serial number will determine which model you have, and which parts you may need to repair or replace on your machine. Your serial number is located on a label on the side of the Blower Assembly.



System Information:

Model Number: _____

First Blower Serial Number: _____

Second Blower Serial Number: _____

Installation Date: _____

WARRANTY POLICY

Dedoes Industries Incorporated warrants the Dedoes Rapid Air System against defects due to defective material, design or manufacturing to the end user for a period of One Year from the date of purchase based on the Serial Number.

This warranty covers all manufactured parts on the products that are defective or damaged. All products, goods, services and equipment comply with all applicable environmental, safety, design, and regulatory laws, regulations, customs, and requirements of the region in which they are delivered and put into service.

This warranty does not cover any items that have been damaged due to mutilation, alteration, misuse, or abuse. Corrosion due to neglect or chemicals is not covered by this warranty. Dedoes will not be responsible for loss of time, inconvenience, or other consequential damages. Dedoes assumes no liability if proper wiring is not completed by a certified electrician.

The warranty is void:

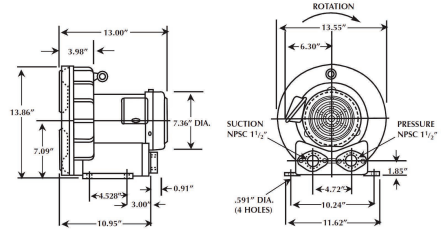
- if the equipment is not properly wired to all applicable codes by a certified electrician
- if the equipment is not installed, assembled, or aligned properly
- if Dedoes parts are not used for repairs or installation

This is the only warranty on Dedoes products and no other expressed warranty by anyone other than Dedoes, in writing, will be binding on the manufacturer. This warranty is transferable from the location of the original installation of the equipment to any additional installation locations within the warranty time period.

Warranty Return Policy: Under no circumstance should the product or any part there-of be returned to Dedoes for inspection, replacement, and/or repair without the written consent from Dedoes Industries Inc. Returned items must be in original unused condition, unless there is a manufacturer defect. Please contact Dedoes at 1-248-624-7710 to obtain a Returned Goods Authorization Number and to discuss other specifics of the return.

RING COMPRESSOR

The VFC50 is a single stage ring compressor with a maximum pressure of 80 in. H²O, a maximum vacuum of 70 in. H²O, and a maximum capacity of 154 SCFM. It comes complete with a direct-drive 2.5 horsepower, TEFC motor capable of operating on a wide range of voltages, and on 50 or 60 Hz. A pilot-duty thermal protector is standard equipment on all 3 phase and 1 phase models. All versions have NEMA class B insulation, are UL recognized, CSA certified, and CE. 575 Volt units are CSA certified only.



SPECIFICATIONS

			Voltage	Amps (Max. Rated)	Amps (Locked Rotor)	Max. Pressure	Max. Vacuum	Max. Airflow	Min. Airflow	Max. Temp Rise	Weight
Model No.		Hz	Low Voltage/High Voltage			in. H2O	in. H2O	SCFM	SCFM	°F(°C)	lbs. (kg)
1 Phase	VFC5008-2T	60	200/230	12-11	70-80	80	70	154	60	72 (40)	97.5 (44)
		50	200/230	8.5-8	70-75	60	53	130	45	65 (35)	
3 Phase	VFC500A-7W	60	200-240/400-480	6.9-6.2/3.4-3.1	44-52/22-26	80	70	154	45	101 (55)	70.5 (32)
		50	190-230/380-460	5.2-5.4/2.6-2.7	48-56/24-28	60	53	130	25	72 (40)	
	VFC500A-5W	60	575	2.3	21	80	70	154	45	119 (65)	70.5 (32)
		50									

ACCESSORIES

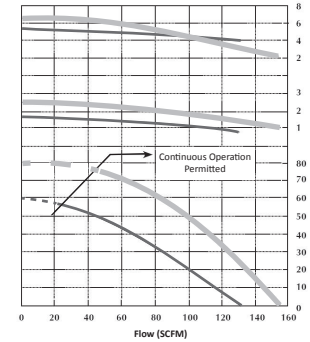
Description	Vacuum Relief Valve	Pressure Relief Valve	Inlet Filter	Inlet Filter Cover	Inlet Filter/Receiver	Exhaust Silencer/Muffler
Model No.	VV5	PV5	F-45	C-45	R30P1.5	VFY-024A

Note: Maximum allowable time at deadhead is 60 seconds.

VFC50 PERFORMANCE DATA

KEY — 60 Hz, 50 Hz

PRESSURE

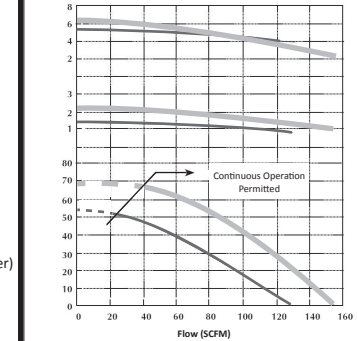


AMPS (230 V/3 PH)

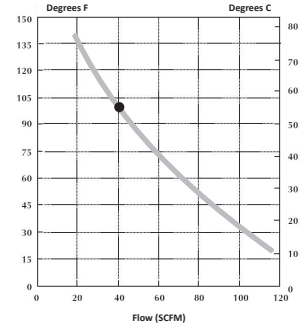
KILO WATTS

STATIC PRESSURE (Inches of Water)

VACUUM

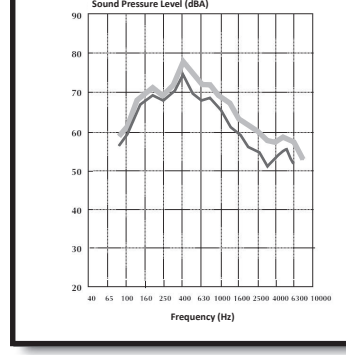


TEMPERATURE RISE



● Max. Air Temperature is Value Marked plus 40 Degrees C Ambient Temperature

SOUND LEVEL



*Measured at a distance of 1.0 meter

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PART # P1531 KD RV.9 - 12/08/2014